NASA Glenn Research Center
AeroSpace Frontiers
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Dr. Lebacqz presents 2004 Honor Awards

Associate Administrator for Aeronautics Research Dr. J. Victor Lebacqz assisted in bestowing 28 medals—the Agency's highest award—to employees during the Glenn 2004 NASA Honor Awards Ceremony on September 1.

Distinguished Service

Dr. Christos C. Chamis
For distinguished service and pioneering contributions to the aerospace arena through forward-thinking research

Exceptional Achievement

Dr. Samuel A. Alterovitz
For pioneering experimental and analytical research in the characterization of electronic materials for satellite communications applications, specifically in variable-angle spectroscopic ellipsometry and magnetoresistance methods

Raymond F. Beach
For exceptional service in the advocacy and development of aerospace flywheel technology

Robert J. Buehrle
For numerous technical achievements and for shaping the technical strategy and approach to advance NASA aerospace technology

Dr. Danny P. Hwang
For outstanding capabilities as an innovator in fundamental fluid flow

Dr. Meng-Sing Liou
For the development of an innovative new method that allows efficient and accurate simulation of multiphase flows

Konstantinos S. Martzaklis
For outstanding management of the Weather Accident Prevention Project, which resulted in significant accident prevention technologies to increase the safety of the flying public

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Ward named Glenn's new CFO

Ward

Glenn Center Director Dr. Julian Earls appointed Bruce E. Ward to the position of chief financial officer, effective July 26. Ward joins Glenn from the Department of Treasury, Financial Management Service in Washington, DC, where he served as comptroller and deputy chief financial officer.

"Mr. Ward possesses a strong and balanced experience in Federal financial management and budgeting acquired from various leadership positions at both Federal Government and private industry entities," Dr. Earls said. "He is a good communicator and strong team builder with high integrity. He is a welcomed addition to the SES corps at Glenn."

Prior to his tenure with the Department of Treasury, Ward served with the Farm Credit Administration and the Department of Housing and Urban Development (HUD), in addition to 16 years audit experience in public accounting and in commercial banking.

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Transformation

NASA's transformation fundamentally restructures its Strategic Enterprises into Mission Directorates for a more integrated approach to science requirements, management, and implementation of systems development and exploration missions.

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Inside

NASA Transformation in effect

These changes represent the next step in following the recommendations of the President's Commission on Implementation of the U.S. Space Exploration Policy.

The release of the new organizational chart of NASA Headquarters, which became effective August 1, added steam to a transformation underway at NASA to become a leaner, more efficient Agency to support the Vision for Exploration.

The Agency has redefined its relationship with NASA field centers by developing clear and straightforward lines of responsibility and accountability. Specific mission associate administrators are now assigned as Headquarters center executives and have oversight of field center performance in implementing Agency policies and programs.

This transformation fundamentally restructures NASA's Strategic Enterprises into Mission Directortes for a more integrated approach to science requirements, management, and implementation of systems development and exploration missions. The new organization chart is available online at http://www.nasa.gov/home.

The Mission Office organizational structure includes the following:

- Aeronautics Research—Researches and develops aeronautical technologies for safe, reliable, and efficient aviation systems
- Science—Carries out the scientific exploration of the Earth, Moon, Mars, and beyond by charting out the best route of discovery to reap benefits for society
- Exploration Systems—Develops capabilities and supporting research and technology that enable sustained and affordable human and robotic exploration
- Space Operations—Directs space flight operations, space launches, and space communications as well as the operation of integrated systems in low-Earth orbit and beyond

Two Agencywide priority positions will continue with direct responsibility for all related activities: Safety and Mission Assurance Officer and Chief Education Officer.

The major Mission Support Offices include the Chief Financial Officer, Associate Administrator for Institutions and Management, Chief Information Officer, Chief Engineer, General Counsel, and Chief of Strategic Communications, a new position created to direct NASA's communication efforts in public affairs, legislative affairs, and external relations, with responsibility for internal communications management.

To improve the decision-making process, NASA has created the following entities:

- Strategic Planning Council—Chaired by the NASA Administrator, develops multiyear strategic plans and roadmaps, as well as a detailed multiyear plan that forms the basis for policies and budgets
- Director of Advanced Planning—Prepares options, studies, and assessments for the Strategic Planning Council
- Chief Operating Officer Council—Chaired by the Deputy Administrator, implements the direction provided by the Strategic Planning Council and develops standard administrative practices to build on the President's Management Agenda

These changes represent the next step in following the recommendations of the President's Commission on Implementation of U.S. Space Exploration Policy. They also reflect NASA's ongoing efforts to apply the findings and recommendations of the Columbia Accident Investigation Board across the Agency.

"We'll also be engaging other government agencies, industry, academia, and the international community to assist us in developing the tools and processes we need to successfully advance the Vision for Space Exploration," said Administrator Sean O'Keefe. "Doing so will enable us to take the next bold steps into space and rekindle the innovation and entrepreneurial skills that is our legacy to humankind." ◆

Web training for engineers

You are invited to visit the newly launched NASA Engineering Training (NET) Web site at http://net.larc.nasa.gov. The NET Web site will provide NASA engineers with information and links to the training and career- development resources necessary for success. The site will also serve as a forum for news, discussions, lessons, and strategies.

The site includes information (sponsored by NET through NASA Headquarters) about the engineering training that is available to the NASA engineering community, including a comprehensive list of all NET courses, course descriptions, syllabi, and class schedules. The site also features news articles, testimonials, and links to NASA, Government, and other training and educational facilities. ◆

Glenn has new CFO

Continued from page 1

Ward has a very strong customer service focus and experience in leading major change efforts. At HUD, Ward led a reengineering effort of its nationwide CFO organization that resulted in consolidating ten accounting operations into one service center. Ward believes that his direct leadership in implementing and converting complex core financial systems enables him to understand the difficulty Glenn employees are experiencing and to meet challenges during this period of transition in the Agency. ◆

Advanced propulsion R&D teams chosen

NASA announced the selection of one industry and one academic-led team to conduct advanced electric-propulsion technologies research in support of the Vision for Space Exploration. The advanced electric-propulsion technologies program is part of Project Prometheus supported within NASA's Exploration Systems Mission Directorate.

The total value of the work to be done over a 3-year period is approximately $7 million with support from one period to the next contingent on program need, availability of funds, and each team's ability to meet proposed milestones. NASA's Glenn and Jet Propulsion Laboratory (JPL) are members of both teams with notable responsibility in meeting those milestones.

Northrop Grumman Space Technology (Redondo Beach, CA) leads the industry team selected to develop a nuclear-electric pulsed inductive thruster system capable of sustained operation at 200 kilowatts at 70 percent efficiency within a specific impulse range between 3000 to 10,000 seconds. Arizona State University (Tempe, AZ) rounds out the team awarded approximately $3 million for work over a 2-year period.

Princeton University (Princeton, NJ) is the academic-led team leader selected for an approximate $4 million contract, with work to be performed over 3 years, to advance the technologies of a lithium-fed magnetoplasmadynamic thruster system. If successful, their lithium thruster should operate at 240 kilowatts, with greater than 60 percent efficiency, while retaining a specific impulse of 6200 seconds. NASA's Marshall Space Flight Center joins Glenn and JPL as well as the University of Michigan (Ann Arbor, MI,), and the Worcester Polytechnic Institute (Worcester, MA) in this effort.

For more information about Project Prometheus on the Internet, visit http://exploration.nasa.gov/proprom.html. ◆

Glenn technology still a viable partner in weather prediction

BY S. JENISE VERIS

Perhaps the 25th anniversary celebration thrown by the World Meteorological Organization for FGGE (First GARP Global Experiment), did not register on the public's radar. However, the fact that 7 out of 17 aircraft-to-satellite data relay (ASDAR) units built at Glenn still fly and provide data on a daily basis warrants a few balloons and streamers.

C-1978-2225

The ASDAR system is a unique 70-pound weather data gathering unit designed, built, tested, and integrated by a team of Glenn engineers in 1977 as a prototype weather data transmission system for jet aircraft on global routes. NASA, the National Oceanic and Atmospheric Administration (NOAA), and the National Environmental Satellite Service funded the system cooperatively. The unit consisted of a power supply, clock, 80-watt transmitter, antenna, and a small computer. It flew in the belly of a wide-bodied Boeing 747 and relayed weather data formatted from the aircraft's existing instrumentation to geostationary operational environmental satellites, which transmitted the information instantaneously to ground processing stations.

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O'Keefe bestows Congressional Space Medal of Honor on crew

The families of the *Challenger*, STS–51, crew accepted the Congressional Space Medal of Honor from NASA Administrator Sean O'Keefe. The honors, presented in the name of Congress and on behalf of President George W. Bush, were made recently during a private ceremony in Washington.

"The Challenger tragedy was a defining moment in American history and demonstrated that achieving great things often comes with great sacrifice. We honor the bravery and dedication of the crew and their families with a renewed commitment to the causes to which they devoted their lives—exploration and discovery," said Administrator O'Keefe.


Photo by Renee Bouchard

The Congressional Space Medal of Honor was authorized by Congress in 1969 to recognize "any astronaut who in the performance of his duties has distinguished himself by exceptionally meritorious efforts and contributions to the welfare of the Nation and mankind."

Astronauts who have been honored with the Congressional Space Medal include John Young, Jim Lovell, Virgil "Gus" Grissom, Shannon Lucid, William Shepherd, and Senator John Glenn. Apollo 11 Commander Neil Armstrong, who recently celebrated the 35th anniversary of the first walk on the Moon, received the first Congressional Space Medal of Honor in 1978. In all, a total of 27 astronauts have now been honored. ◆

Photo by Richard Manco

AirVenture 2004

Over 800,000 aviation enthusiasts from around the world visited the Experimental Aircraft Association's AirVenture 2004 in Oshkosh, WI, July 26 to August 2. Many of them also visited NASA's exhibit, featuring accomplishments in aeronautics and space. Throughout the week, more than 50 NASA employees fielded questions and gave an overview of the exhibits, including one named for NASA's Vision for Space Exploration, a subject touted in Administrator O'Keefe's special presentation during his visit on July 28. The same day, NASA engineers, responsible for the record-setting Mach 7 scramjet test flight, recounted the chain of events leading up to the flight. A model of the parametric inlet, a supersonic inlet for jet engines developed by Glenn and Techland Research, was also a crowd magnet.

Poster display

More than 125 people participated in the 11th annual Historically Black Colleges and Universities (HBCUs) and Other Minority Universities (OMUs) Research Conference held at OAI on July 14 and 15. The 2-day conference is a critical element of a program that enables researchers and students from HBCUs and OMUs to give a progress report on Glenn-sponsored research, according to Dr. Sunil Dutta, HBCU/OMU program manager and Center point of contact for Small Disadvantaged Businesses. Seven HBCUs and two OMUs presented a total of 24 technical papers in the areas of propulsion, microgravity, materials, catalysts, photovoltaics, and probabilistic life prediction. Pictured, Dr. Isaiah Blankson, left, technical monitor for research conducted at NASA's Center for Aeropropulsion at Hampton University, discusses one of the center's projects with Al Juhaz (5940).

C-2004-1002

Photo by Marvin Smith

Space domes

Photo by Justin Fitzgerald

Over the summer, Glenn Speaker's Bureau members Steve Bauman (5960), Jeffrey Woytach (6910), Nancy Hall (6712), and Mike Quintin (8400), pictured, made presentations to students who are learning to live in space. The four visited Space Domes America, a unique camp featuring 10 geodesic domes, aligned—like a spacecraft with satellites—to simulate a space civilization. Located behind Copley-Fairlawn High School, each dome houses different instructional material to encourage a spirit of exploration. Campers participate in rotation simulation of flight on the space shuttle or space station, rocket building and launching, and a variety of experiments and computer space-related activities. They also learn about hydroponics and raising fish for food, health and fitness, and how to coexist with others in their "space" home as if living on the Moon or Mars.

Photo by Anna Falcon

Across borders

Glenn was part of the magic in Cleveland during the weekend of July 30th as dreams came true for 3000 young athletes and their families from all over the world. Excitement filled the air at the International Children's Games, where adrenaline-pumped youth, ages 12 to 15, competed to gain international glory in 1 of 10 sports. Glenn staff distributed educational materials, lithographs, and the ever-popular NASA temporary tattoo. This was the first time since its inaugural year in 1968 that the games have been held in the United States. Pictured are members of the French delegation—who competed in track, swimming, and table tennis events—photographed as members of the astronaut corps.

Ask the Director

Q: What steps are Glenn senior management taking to defend against the very real threat of Glenn Research Center being dissolved and replaced with a Federally Funded Research & Development Center (FFRDC)? Will you forward our position against FFRDC to Headquarters and O'Keefe? I would like HQ to show "irrefutable proof" that a FFRDC will solve NASA's budget and management problems.

A. (7/26/04) There are no plans to close any NASA center. Any effort to differently structure a center will not happen overnight. Considerable time and effort will be required to understand what makes sense to NASA and how to pursue that goal. We plan to keep all NASA employees informed about the transformation process. Our first step will be to gather information and understand the issues and choices available to the Agency. This process must ensure that inherently governmental functions are preserved and the Vision for Space Exploration is supported. On Tuesday, July 27th, I joined other Agency leaders to begin communicating the process throughout the Agency by way of a Transformation Dialogue from the Goddard Space Flight Center.

Q. What is the intended purpose of the change from a numeric organization code system to letter-based code? Given that HQ is now de-emphasizing the use of the code designations and that the letters are causing confusion among the workers (did they mean HQ Code R or GRC Code R?) why don't we stay with the numeric code system?

A. (7/26/04) I have asked that all referrals to organizations, both oral and written, contain the name of the organization rather than numeric or alphanumeric codes. The use of codes is necessary, however, for purposes of employee identification, structure data, and other data such as leave and pay. ◆

News Notes

LESA MEETING: LESA/IFPTE, Local 28, will hold its next monthly membership meeting on Wednesday, September 8, at noon in the .

SUMMER FIESTA: Back by popular demand, Glenn's Summer Fiesta 2004 is scheduled for Friday, September 10, at 5 p.m., at the . The event will feature Spanish cuisine, dance contests, door prizes, and raffles. The cost is $12 for adults and $6 for children ages 4 to 11. For tickets, contact Anna Falcon at 216–433–8993 or Danny Rodriguez at 216–433–2778.

SATURDAY VISITOR CENTER EVENT: Matt Melis, aerospace engineer in the Ballistic Impact Laboratory, will share information on the Columbia Accident Investigation Board (CAIB) findings and Return to Flight (RTF) efforts for the space shuttle on Saturday, September 18, at the As a member of a team that conducted ballistic impact testing and analysis in support of the investigation, Melis will highlight his specific work for both CAIB and RTF efforts. Reservations for the 11 a.m. and 1 p.m. presentations are encouraged. The day will include special shuttle-related activities from 10 a.m. to 3 p.m. For information and reservations, call 216–433–9653.

AEROSPACE POWER–ELECTRONICS WORKSHOP: NASA and partners are hosting a workshop entitled Aerospace Power and Electronics Simulation Workshop 2004. The one-day session focusing on the interdisciplinary simulation environment integral to achieving cost-effective, reliable systems in a timely manner will be held on September 21 at the S
For more information, contact Ray Beach at 216–433–5320 or visit http:///www.aeroee.com.

HISPANIC HERITAGE OBSERVANCE: The Hispanic Advisory Council will host the Center's Hispanic Heritage Month Observance Celebration 2004 with the theme "Hispanic Americans: Making a Difference in our Communities and our Nations." The event will be held Wednesday, September 22, from 9:30 to 11:30 a.m., in the

Feliciano

Exchange Corner

The Exchange Store's Third Annual Sidewalk Sale will be held on the Main Cafeteria patio on Wednesday and Thursday, September 15 and 16, from 11 a.m. to 2 p.m. Great buys on Exchange Store closeout items.

Jose C. Feliciano, a partner in the law firm of Baker & Hosteler, LLP, will be the keynote speaker.

AFGE MEETING: AFGE Local 2182 will hold its next monthly membership meeting on Wednesday, October 6, at 5 p.m., at
All members are encouraged to attend.

MENTORNET VOLUNTEERS NEEDED: Mentornet, a collaborative effort between the Girl Scouts of Lake Erie Council, the African Heritage Advisory Committee, and the Business and Professional Women's group, is seeking volunteers for the 2004–2005 school year. Mentors are matched up with Girl Scouts from local schools and meet once a month at Glenn. They also chat monthly on the Internet. For further information, contact Nola Bland at 216–433–9343.

2004 Honor Awards

Dr. Alterovitz

Beach

Dr. Braun

Buehrle

Dr. Chamis

Chomos

Dr. Dempsey

Emerson

Fox

Dr. Freed

Continued from page 1

Dr. James B. Min
For exceptional performance, technical leadership, and vision to develop advanced computational structural dynamics and life prediction methodologies in support of several NASA programs

Exceptional Engineering Achievement

Dr. Paula J. Dempsey
For exceptional effort in developing a new method for aircraft drive systems that accurately and reliably detects gear surface damage

Exceptional Service Medal

Dr. Donald C. Braun
For superior and sustained contributions to the advancement of digital signal processing and its applications to research at the Glenn Research Center through flight and experimental testing

Gerald J. Chomos
For outstanding contributions to aerospace communications in areas such as the Advanced Communications Technology Satellite (ACTS), Advanced Communications for Air Traffic Management, and aviation weather communications technologies

Dawn C. Emerson
For outstanding contributions to advancing the engineering capabilities at the Glenn Research Center

Dennis S. Fox
For valued contributions to the development of advanced materials technology and its transfer to the turbine engine manufacturers

Dr. Alan D. Freed
For outstanding contributions to engineering mechanics and materials science through the development of innovative, robust, and efficient mathematical models for viscoplastic and viscoelastic material response

Thomas B. Irvine
For sustained contributions to NASA aeronautics and space flight missions including aerospace systems testing and evaluation and the International Space Station Program

Dr. Anatole P. Kurkov
For advancing the state of the art of noncontact blade vibration measurement at Glenn Research Center and pioneering blade deflection measurement on advanced turbomachinery rotors

Dr. Shantaram S. Pai
For outstanding technical leadership and creativity in the development of innovative, unique, and state-of-the-art probabilistic analysis methodologies for NASA Aeronautics and Space Programs

Dr. J. Michael Pereira
For exceptional contributions to research in ballistic impact and high-strain-rate structural behavior, which have led to lighter weight jet engine containment systems and turbine blades

Dr. Gary D. Roberts
For outstanding contributions to NASA's efforts to develop affordable, durable, lightweight materials through research on the long-term durability and fatigue of advanced materials

Ignacy Telesman
For contributions to advanced materials and structures research for aerospace applications

Wayne A. Whyte, Jr.
For exemplary leadership in guiding the Agency's Spectrum Management Program

Exceptional Technology Achievement

Lanny G. Thieme
For significant contributions and dedication to the development of the free-piston Stirling convertor as the Department of Energy's high-efficiency radioisotope power system for NASA's future deep space missions

Outstanding Leadership Medal

Louis R. Ignaczak
For sustained leadership of NASA projects and demonstrated ability to develop technical and management talents of Glenn Research Center employees

Calvin T. Ramos
For exemplary technical leadership and integrity in directing, organizing, planning, and implementing NASA's ad-

2004 Honor Awards

vanced terrestrial-, aeronautics- and space-based networking architectures

Dr. Jaiwon Shin
For outstanding leadership and contributions in Aviation Safety, Aviation Capacity, and Aerospace Operations Systems Programs at the Glenn Research Center

Timothy J. Wickenheiser
For outstanding leadership in providing vision and direction for the Airbreathing Systems Analysis Office

Public Service Medal

Mark A. Allman (Formerly of RSIS)
For outstanding contributions in the research and development of space networking protocols that have enabled Glenn Research Center to significantly advance the state of the art in Internet-based protocols for aeronautical- and space-based platforms and environments

Gregory N. Morscher (OAI)
For outstanding contributions toward development of ceramic matrix composite materials for aerospace applications

Distinguished Publication Award

Mary Ann Meador, **Valerie Cubon**, and **Daniel A. Scheiman** and **William R. Bennet** (QSS Group, Inc.)
In recognition of the excellence and value of their publication entitled, "Effect of Branching on Rod-Coil Block Polyimides as Membrane Materials for Lithium Polymer Batteries"

Group Achievement Awards

Embedded Web Technology Team: For outstanding contributions in the development and commercialization of Embedded Web Technology, which is revolutionizing how users command, control, and monitor embedded computers

Glennan Microsystems Initiative Technical Team: For exceptional technical achievements in significantly advancing the state of the art of harsh-environment silicon-carbide-based microsystems

Compound Semiconductor Monolithic Microwave Integrated Circuit Team: For exemplary performance in solving the numerous complex problems in compound semiconductor monolithic microwave integrated circuit (MMIC) materials and device technology and reliability, which led to the adoption of MMICs in present-day spacecraft

Propulsion IVHM Technology Experiment (PITEX) Team: For successful demonstration of real-time execution of advanced diagnostics technology for space transportation propulsion systems on flightlike hardware

Structural Seals Research Team: For the exceptional effort put forth in providing the technical and experimental support to the development of control-surface seals for future reentry vehicles

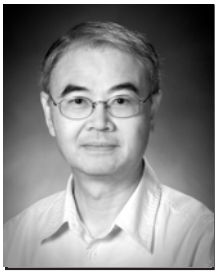
Continued on page 8


Dr. Hwang


Ignaczak


Irvine


Dr. Kurkov


Dr. Liou


Martzaklis


Dr. Min


Morscher


Dr. Pai


Dr. Pereira

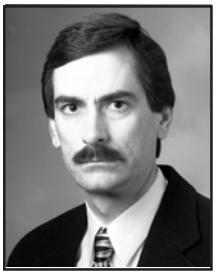

Ramos


Dr. Roberts


Dr. Shin


Telesman


Thieme


Whyte, Jr.


Wickenheiser

2004 Honor Awards

Continued from page 7

Dr. Adamczyk

Campbell

Dr. Whitlow, Jr.

Presidential Rank
Donald J. Campbell
Woodrow Whitlow, Jr.
John J. Adamczyk

Career Service Awards
50 Years: **Earl R. Hanes**
45 Years: **Ojars V. Klans, Gerald V. Brown, Martin T. Stupiansky, Richard K. Shaltens, Ralph G. Garlick**
40 Years: **Grant M. Brown, Klaus H. Gumto, Thomas B. Schneider, Betty J. Waszil, William R. Armstrong, Thomas J. Hill, George H. Neiner, Alvin E. Buggele, Jack A. Salzman, Luequention Wilkins, James R. Davis, Thomas J. Biesiadny, Gerald J. Chomos**

Editor's note: In addition to the NASA Honor Award medal winners, recipients of other awards were recognized at the ceremony. They have been published previously in the *AeroSpace Frontiers*: Abe Silverstein, Steven Szabo, and Craftsmanship awards, June 2004; and Senior Executive Service honors—Dr. Damodar Ambur, August 2004, Jih-Fen Lei, December 2003, Charles Scales, July 2004, and Bruce Ward, September 2004. ◆

ASDAR going strong in global forecasting

Continued from page 3

Pictured is the actual ASDAR 747 aircraft mockup for GARP.

Seventeen ASDAR flew and provided data to the FGGE project, which was part of the Global Atmospheric Research Program (GARP) and involved over 76 nations. The World Meteorological Organization retrieved data from more than 60 aircraft a day during the year-long experiment conducted in 1979.

"ASDAR demonstrated how a satellite could be a viable asset for timely transmission of meteorological data collected from aircraft around the world and processed on the ground to improve weather forecasting. It also offered the added benefit to airlines of tracking favorable winds for the best flight patterns resulting in millions of dollars saved on fuel, annually," said Richard Krawczyk, Space Communications Office. Krawczyk was the power systems engineer responsible for power system design and electrical interference testing.

Krawczyk was a member of the ASDAR principal design team, which included Joseph Hemminger (Engine Systems Technology Branch); NASA retirees Martin Conroy, David Culp (deceased), Royce Myhre, G. Richard Sharp, and Robert Zakrajsek (currently with Analex); and Bruce Lindow. James Bagwell, who now is a consultant for Analex, was the project manager.

Retiree Robert Steinberg, who served in the Center's Satellite Communications Division, first suggested using commercial aircraft to collect upper air data to improve forecasting in a 1973 paper entitled "Commercial Aircraft in Global Monitoring Systems." He observed that wide-body jet aircraft, like B–747s and D–10s, are frequent fliers through the tropics and the far northern latitudes—regions that determine much of the circulation patterns of the world's atmosphere.

"ASDAR has continually demonstrated its effectiveness in daily global forcasting," said Steinberg. "ASDAR, and more recently Aircraft Communication Addressing and Reporting System, have been the predominant sources of automated aviation to date. They collectively are known as Aircraft Meteorological Data Reporting systems and are making an increasingly important contribution to the observational database of the World Weather Watch of the World Meteorological Organization."

Thanks to the evolution of technology predicting weather patterns, the National Weather Service is now able to forewarn the public and recommend expedient evacuations when necessary. Losses from the recent tropical storm Bonnie and hurricane Charley along the Gold Coast, for example, were greatly reduced by this state-of-the-art technology, which owes much to ASDAR. ◆

Sandra Foust, formerly of the Flight Projects Branch, inventories ASDAR parts. Foust now serves in the Research and Technology Directorate.

C-1975-342

Student interns modify toys for children with disabilities

Installing cables and jacks on battery-operated toys allows any child to use a toy.

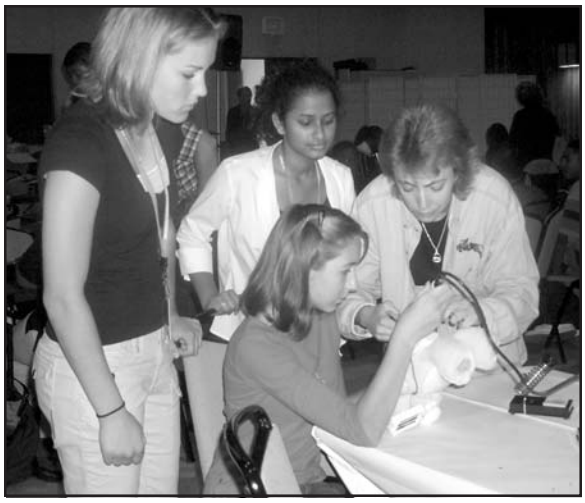


Photo by Doreen Zudell

Joanne Walton, Microgravity Division, standing, right, works with LERCIP students, left to right, Jessica Moore, Felishia Mangla, and Anna Gillespie, to insert a switch in a Care Bear stuffed animal so that it can be operated by a child with a disability.

Participation in a toy adaptation workshop by high school students from the Lewis Educational and Research Collaborative Internship Program (LERCIP) proved to be enlightening and an opportunity to brighten the upcoming holiday season for area children with disabilities.

Glenn and RePlay for Kids, a nonprofit organization that modifies toys and repairs assistive devices for children with disabilities, hosted the workshops at Glenn on July 26. Under the guidance of Glenn employees and volunteers from RePlay, LERCIP students took battery-operated toys apart and installed cables and jacks. This process allows any child to use a toy once the appropriate switch is inserted. These switches include ones that are larger or easier to press, or that are activated by puffing into a tube or tilting one's head.

"Through this workshop, our students saw firsthand how achievements in science, engineering, and technology can improve someone's quality of life," said Jo Ann Charleston, chief, Educational Programs Office. "The interns not only learned more about electronics but also about people with disabilities, while providing a useful community service."

Samantha Hasselbusch, a senior at Valley Forge High School, organized the daylong event, which was part of her summer internship. Hasselbusch, who is blind, is a LERCIP student under the High School/High Tech Program, which is operated through United Cerebral Palsy. She reported that 75 students and 20 mentors participated in the workshops, modifying 28 toys.

The workshop toys were donated by Glenn employees and by the U.S. Marine Corps' Toys for Tots program, which has a partnership with RePlay to supply toys that can be adapted for switch access.

The toys adapted at the Glenn workshops will be donated to local agencies for holiday distribution.

"We knew that the technical skills of the NASA employees would be a great fit for our workshops—and the student involvement was an added benefit," said Bill Memberg, president of RePlay. "We hope to collaborate with NASA on future workshops too."

For more information on RePlay for Kids, go to www.replayforkids.org. ◆

Fitness Center open house focuses on health and wellness

More than 300 employees learned all about the Center's health and wellness services during an open house at the new Fitness Center on August 4. Blood pressure screenings, posture evaluations, and wellness-related door prizes highlighted the event.

"Singleton Health Services (SHS) set up tables that offered information on such topics as nutrition, physical fitness, and medical services," explained Renee Barrett, Fitness Center director, SHS/Environmental Management Office. "Employees had opportunities to meet the medical director, physical therapist, dietician, nurses, and fitness professionals on staff at Glenn."

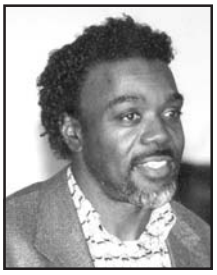
Additional highlights included a demonstration of the automatic external defibrillator and details on the free ergonomics program. The Glenn Safety Office set up a "Safety Shack" outside the Fitness Center, where staff members provided information on the Voluntary Protection Program. ◆

Photo by Doreen Zudell

Lead Nurse Patty Oleksiak, right, SHS/Environmental Management Office, explained the automatic external defibrillator and encouraged employees to register for training.

In Memory

Mackey committed to NASA's goals



Dr. Mackey

Dr. Willie Ray "Karimi" Mackey, a spacecraft plasma physicist serving in the Photovoltaics and Space Environment Effects Branch, recently died at the age of 51. From the time he arrived at Glenn in 1989 until his passing, Mackey was committed to sharing NASA's goals of sustaining the Earth and developing space technology to benefit all humankind.

Mackey supported the International Space Station electrical power grid team by proposing several assessment models for electromagnetic compatibility of spacecraft power systems utilizing surface plasma effects and a plasma anodization process. He was technical monitor for the Consortium for the Advancement of Renewable Energy Technology (CARET) Program developed by his branch in 1998. More recently, he supported research in advanced propulsion program concepts such as fusion power and magnetic bubbles to catch solar winds. However, the bulk of his NASA contributions lies in educational outreach.

As an adjunct professor at Wilberforce University, Mackey helped to implement a photovoltaic chemical modeling grant in cooperation between NASA and the Historically Black Colleges and Universities. Detailed to Cheyney and Lincoln Universities of Pennsylvania as a NASA Administrator's Fellow, he coordinated the design and installation of an anodized aluminum nanopores laboratory.

A long-standing relationship with Cleveland's African-American Museum provided a unique forum for Mackey to parlay his many gifts into stimulating interest in science and space. He led truly innovative projects, such as the NASA–OAI African-Americans in Space Science traveling exhibit, and the African Solar Village Outreach Project. The village project, a collaboration between Glenn and CARET, utilizes records from 83 rural photovltaic systems installed by NASA worldwide between 1977 and 1985 (primarily from USAID) to inspire and illustrate how science and culture interrelate.

He also used traditional African dance performances to compare patterns of rhythm to mathematical equations. He was a tireless force in pursuit of the resources, both private and public, to help prepare underserved youth to take their place among the stars. ◆

2004 Northeast Ohio Combined Federal Campaign

Time Never Runs Out for Caring

2004 GRC CFC Campaign
Monday, September 20 to Friday, October 22, 2004

2004 Glenn CFC Campaign Kick-off
Monday, September 20, Administration Building Auditorium

Glenn CFC Pacesetter Campaign
Monday, September 20 to Friday, October 1

Agency Fair
Tuesday, September 21 and Wednesday, September 22, Building 15 hallway

Car Show and Ice Cream Social
Wednesday, October 6

Civil servant contributions can be made to assigned Keyworkers. Retiree, student, and contractor contributions can be made to Blanche Preusser at 216–433–2528.

View us online at http://AeroSpaceFrontiers.grc.nasa.gov

AeroSpace Frontiers is an official publication of Glenn Research Center, National Aeronautics and Space Administration. It is published the first Friday of each month by the Community and Media Relations Office in the interest of the Glenn workforce, retirees, Government officials, business leaders, and the general public. Its circulation is approximately 6700.

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DEADLINES: News items and brief announcements for publication in the October issue must be received by noon, September 10. The deadline for the November issue is noon, October 15. Submit contributions to the editor via e-mail, doreen.zudell@grc.nasa.gov, fax 216–433–8143, phone 216–433–5317 or 216–433–2888, or MS 3–11. Ideas for news stories are welcome but will be published as space allows. View us online at http://AeroSpaceFrontiers.grc.nasa.gov.

WINNER
2004 APEX® AWARDS FOR PUBLICATION EXCELLENCE

People

Award

Dr. Salem

Dr. Jonathan Salem, Structures and Acoustics Division, is the recipient of the Advanced Ceramics Award presented by the ASTM International's (formerly known as American Society for Testing Materials) Committee C28 on Advanced Ceramics. He was recognized for his contributions to the work of C28 subcommittees, sections, and task groups. C28 is one of 136 ASTM technical standards-writing committees from which standards are accepted and used in research and development, product testing, quality systems, and commercial transactions around the globe.

Retirements

Lalli

Vincent Lalli, Risk Management Office, retired from Glenn on August 8, 2004, with 41 years of NASA service.

George Neiner, Aeropropulsion Projects Office, retired from Glenn on July 2, 2004, with 40 years of NASA service.

In Appreciation

I would like to thank my family members and all my friends and coworkers who attended my retirement luncheon and recent coffee and cake reception. A special thanks to all those who participated in the preparation of the reception, presentations, very special gifts, and thoughtful sentiments. Although my career at Glenn has ended, I will always have fond memories of all those people I had the privilege and opportunity to work with. I am proud to have been a member of the NASA team. My best wishes to all. **—Thomas Dorony**

Behind the Badge

a closer look at our colleagues

Nola Bland

Bland helps a Girl Scout make paper airplanes, one of the requirements to earn an Aerospace Girl Scout Badge.

Job Assignment: Human resources specialist (HR Development) Human Resources and Workforce Planning

Time at NASA: Nearly 14 years as a civil servant and 2 years with a support service contractor (Cortez)

Describe your family: God has blessed me with a Christian husband, Shanton Bland, and a beautiful son, Noah Bland. How could a girl get so lucky?

Favorite quote: Jesus answered, "I am the way, the truth, and the life. No one comes to the Father except through me." John 14:6 (NIV)

Advice for the President of the United States: When you're making political decisions, please put yourself in the shoes of "We the people."

Social/professional activities at Glenn: Mentor (2003–2004) for the Lewis Educational Research Collaborative Internship Program (LERCIP) and a member of the LERCIP Rating Panel (2000–2004), LERCIP Interview Panel (2000–2004), African Heritage Advisory Council, National Technical Association, and Advancing Careers and Employee Success Mentoring Program

Hobbies/interests: I'm cochair of the Mentornet, a collaborative effort between the Girl Scouts of Lake Erie Council, African Heritage Advisory Committee, and the Business and Professional Women's group here at Glenn. The program begins in October and continues through May. Last school year, the program matched 25 Girl Scouts from schools on Cleveland's Near West Side with 10 Glenn mentors. The mentors are all professional women, including engineers, mechanics, researchers, computer specialists, human resources development specialists, and program analysts. The goal of the program is to help the girls deepen their self-awareness, develop values, relate to others in a positive way, and contribute to society, as well as encourage the girls to enter scientific and technical career fields. Mentors also benefit from the relationship by receiving a personal sense of fulfillment from helping in the development of the girls. The mentors and their girls meet once per month here at Glenn and also chat once per month on the Internet.

Person you most admire: My husband—he is such a humble and blessed human being. He's a devoted husband, an outstanding father, a good son, and loyal friend.

Stress buster: The best way to relieve stress is putting God first in your life. Just knowing that with Him and through Him. . . the battle is not ours; it's the Lord's.

Favorite Web site: Bible.com

Hispanic Heritage Month

This is the fourth in an *AeroSpace Frontiers* series of heritage and awareness month features.

Figueroa

Holton

Lozano

Polanco

In recognition of Hispanic Heritage Month, Glenn employees of Hispanic descent were asked, "How do you celebrate Hispanic Heritage Month?"

Ricardo Figueroa (LMIT), Engineering and Technical Services Directorate. "I usually don't celebrate Hispanic Heritage month in any specific way. However, I try to expose my children to their Hispanic heritage whenever possible. My parents, who are Puerto Rican (dad) and Mexican (mom), speak Spanish to my children and teach them a few words at a time. My family enjoys my mom's Spanish recipes (as do my coworkers)."

Annie Holton, Programs and Projects Directorate. "I celebrate my Hispanic heritage by inspiring others to share, participate, and advocate while empowering them to succeed in their personal and professional life. As former chair and current member of the Hispanic Advisory Council, I led a team effort to bring forth cultural awareness by encouraging others in the community to participate in our annual Hispanic heritage observance event. I take pride in celebrating my Hispanic heritage every day by reflecting on my culture, sharing my language and cultural background, and giving back to the community."

Olga Lozano (IDI), Engineering Development Division. "I celebrate it by attending the special observances and celebrations throughout the different organizations and communities. I look forward to the dynamic speakers sponsored by NASA. I also enjoy performances done by the various musical and dance groups, especially the children performing folkloric dance. I am proud of my Puerto Rican heritage and take pleasure in sharing the culture with others."

Miguel Polanco, Engineering Development Division. "During Hispanic Heritage Month, I have opportunites to see films from Latin countries that are not available all year round. I also enjoy the art exhibits and the festivals of the Hispanic culture in the area. Needless to say, I also attend Glenn's activities for Hispanic Heritage Month." ◆

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